

Application Number 10/530426

Response to the Office Action dated July 9, 2009

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently Amended) An optical information recording medium comprising a substrate, a plurality of information layers being provided on the substrate, and an optical separating layer being provided between adjacent information layers, in which information is recorded or reproduced by irradiation of a laser beam,

wherein when an information layer being provided closest to a laser beam incident side of the plurality of information layers is taken as a first information layer and an optical separating layer being provided in contact with the first information layer is taken as a first optical separating layer, the first information layer comprises

a recording layer that can change between two optically different states,

a transmittance adjusting layer that adjusts a transmittance of the first information layer, and

a low refractive index layer ~~having a lower refractive index than that of the transmittance adjusting layer and~~ being provided between and in contact with the transmittance adjusting layer and the first optical separating layer, the low refractive index layer being formed on the optical separating layer, and the transmittance adjusting layer being formed on the low refractive index layer,

wherein refractive indices with respect to the laser beam of the transmittance adjusting layer and the low refractive index layer are in ranges of 2.0 to 3.0 and 1.4 to 1.6, respectively, and

when ~~a~~ the refractive index of the low refractive index layer ~~with respect to the laser beam~~ is taken as n_1 , and ~~a~~ the refractive index of the first optical separating layer is taken as n_4 , n_1 and n_4 satisfy:

$$|n_1 - n_4| \leq 0.5.$$

2. (Cancelled)

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3. (Previously Presented) The optical information recording medium according to claim 1,

wherein n_1 and n_4 satisfy:

$$|n_1 - n_4| \leq 0.1.$$

4. (Original) The optical separating layer according to claim 1,

wherein the recording layer contained in the first information layer is formed of a material that can change between a crystalline state and an amorphous state, and

when a transmittance of the first information layer with respect to the laser beam when the recording layer is in the crystalline state is taken as T_{c1} (%), and a transmittance of the first information layer with respect to the laser beam when the recording layer is in the amorphous state is taken as T_{a1} (%), T_{c1} and T_{a1} satisfy:

$$40 < T_{c1} \text{ and } 40 < T_{a1}.$$

5. (Previously Presented) The optical information recording medium to claim 1,

wherein the first information layer further comprises a reflective layer being provided between the recording layer and the transmittance adjusting layer,

when a refractive index of the transmittance adjusting layer with respect to the laser beam is taken as n_2 , an extinction coefficient thereof is taken as k_2 , a refractive index of the reflective layer with respect to the laser beam is taken as n_3 , and an extinction coefficient is taken as k_3 , at least one of the following relationships between n_2 and n_3 and between k_2 and k_3 is satisfied:

$$1.0 \leq (n_2 - n_3) \leq 3.0 \text{ and}$$

$$1.0 \leq (k_3 - k_2) \leq 4.0.$$

6. (Original) The optical information recording medium according to claim 1,

wherein the low refractive index layer comprises at least one selected from the group consisting of SiO_2 , Al_2O_3 , LaF_3 , ZrSiO_4 , and ZrO_2 .

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7. (Original) The optical information recording medium according to claim 1,
wherein the low refractive index layer has a film thickness of 1 nm or more and
25 nm or less.

8 - 11. (Canceled)